

Jack Burkhardt

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EDUCATION

Northwestern University, Evanston, IL

MS, Computer Science, Expected June 2024

BA, Computer Science, Expected June 2024

- Undergrad GPA: 3.65/4.00 | Master's GPA: 4.00/4.00

EXPERIENCE

Overture Games, Chicago, IL

Lead Systems Engineer, June 2022 – October 2023

- Shipped music practice game [Intervallic](#) built on **Unity** and **C#** which reduces burnout among young music students
- Built a metrics system which sends data to a **REST API** and **NoSQL** database on **AWS**, providing insight on player engagement that impacts business direction
- Created robust level editor tools utilizing **polymorphism** and **factory methods** to enable user generated content
- Drafted technical design docs with diagrams, testing plans, scope contingency plans, then sought feedback from team

NASA, Wallops Island, VA

Flight Safety Tool Programming Intern, June 2023 – Aug 2023

- Validated a mission safety analysis tool through **unit tests**, numerical analysis, and previous mission data
- Listened to needs of stakeholder offices, implemented changes, then provided instructions and documentation
- Rapidly learned and built upon a 20 year old & 15k line **C++** codebase by drawing program flow and debugging

Project KeyWave (acquired by [SimCase](#)), Remote, USA

Lead Programmer, June 2022 – Sept 2022

- Built an educational game integrating modular visual novel, job simulator, and roleplaying systems using **component-based architecture** and **JSON serialization**
- Directed implementation of art, sound, and writing in Unity through direct coordination of respective designers
- Developed custom tools allowing designers and other non-programmers to add content 40% faster than manually

Mayfest Productions, Evanston, IL

Producer, Sept 2021 – Present

- Planned and executed [Dillo Day](#) music festival with 12,000+ attendees, 100+ crew members, and 14 artists
- Managed a mainstage artist and coordinated with their agents, technical, and PR teams pre-event and day-of
- Documented each year's lessons and created actionable steps to improve the attendee experience and team safety

Northwestern University, Evanston, IL

Undergrad Research Aide, June 2021 – June 2022

- Completed [VastWaste](#), an immersive **Virtual Reality** art experience, using **Unity3D**, **Wwise**, and **SteamVR**
- Successfully pushed for increased documentation and **Git version control** to streamline development
- Presented work publicly at prestigious international exhibitions including [ISEA2022](#) and [SIGGRAPH2022](#)

TECHNICAL SKILLS

- **Programming Languages:** C#, C++, C, Java, Python, WebGL, SQL, JavaScript, HTML, CSS, XAML
- **Technologies:** Unity3D/2D, Unreal Engine, .NET Framework, AWS, Jenkins, FMOD, Blender
- **Adobe Software:** Premiere Pro, Photoshop, InDesign, After Effects, Lightroom
- **Productivity:** Git, Perforce (user & admin), Microsoft Office, Jira, Agile/Scrum, Trello, Confluence

RELEVANT COURSEWORK & TOPICS

- **Operating Systems:** Wrote drivers, schedulers, and locks for a UNIX-like kernel
- **Networking:** Built web servers and clients, also implemented TCP, flow control, and IP routing
- **3D Graphics:** Animated assemblies, GLSL shaders, lighting, texturing, virtual cameras

COURSES AS TEACHING ASSISTANT

- **CS 376:** Game Design & Development
- **CS 377:** Game Development Studio
- **CS 330:** Human-Computer Interaction
- **CS 396:** AI & Experimental Narrative
- **RTVF 376:** VR Storytelling
- **RTVF 376:** Filmmaking w/ Unreal Engine